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EXAMINER	
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ART UNIT	PAPER NUMBER
1794	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/804,191	BAUMERT ET AL.	
	Examiner	Art Unit	
	WALTER B. AUGHENBAUGH	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 March 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8,10-22 and 24-37* is/are pending in the application.

4a) Of the above claim(s) *19 and 20* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,10-18,21,22 and 24-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 20, 2009 has been entered.

Acknowledgement of Applicant's Amendments

2. The amendments made in claim 1 in the Amendment filed March 20, 2009 have been received and considered by Examiner.

3. New claims 29-37 presented in the Amendment filed March 20, 2009 have been received and considered by Examiner.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1, 34 and 36 rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 21 of U.S. Patent No. 6,875,520. Although the conflicting claims are not identical, they are not patentably distinct from each other because an article comprising two or more layers of the composition comprising the polyolefin-polyamide graft copolymer falls within the scope of claim 21 of US '520 since the polyolefin-polyamide graft copolymer is a polyamide (in regard to layer (1)), so claim 21 of US '520 reads on Applicant's claims 1, 34 and 36.

Specification

6. The disclosure is objected to because of the following informalities: "g/ml" in line 15 of page 18 should be replaced with --g/mol--. See the portion of line 15 of page 18 prior to "g/ml".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 30, 33 and 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In regard to claims 30, 33 and 34, claims 30, 33 and 34 recites the limitation "said polyamide". There is insufficient antecedent basis for this limitation in the claim. Independent

claims 1 and 34 recite two separate polyamides. To which polyamide does the limitation "said polyamide" refer?

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 36 and 37 are rejected under 35 U.S.C. 102(e) as being anticipated by Schmitz et al. (USPN 6,794,048) as evidenced by Court et al. (USPN 6,875,520).

In regard to independent claim 36, Schmitz et al. teach a multilayer structure comprising a first layer (layer I of Schmitz et al.) comprising a polyamide (col. 1, lines 51-54) and a second layer (layer II of Schmitz et al.) comprising a graft copolymer having polyamide blocks, a polyolefin backbone, and a polyamide graft where the structure and composition of the graft copolymer corresponds to that of the claimed graft copolymer in its final form (col. 1, lines 51-67 and col. 3, lines 7-37). The graft copolymer is obtained by reaction between a polyamide having an amine end group and the residue of the unsaturated monomer having a functional group capable of reacting with the amine end group of the polyamide (col. 3, lines 15-30), and the unsaturated monomer is attached to the polyolefin backbone by grafting or copolymerization via its double bond (col. 3, lines 24-30). The polyolefin-polyamide graft copolymer has the claimed structure (nanostructured organization with polyamide lamellae having a thickness of between 10 and 50 nanometers) as evidenced by Court. et al. (USPN 6,875,520) because Court. et al. discloses a polyolefin-polyamide graft copolymer that is produced in the same way that the

polyolefin-polyamide graft copolymer of the instant application is produced, and that has the same structure as the polyolefin-polyamide graft copolymer of the instant application (see entire Court. et al. reference, including col. 8, lines 1-4 and col. 5, lines 12-16).

In regard to claim 37, the layer (2) consists of the graft copolymer in the instance taught by Schmitz et al. where all of the polyamide is present in the form of the graft copolymer (col. 1, lines 61-67).

11. Claims 1, 5, 28, 34 and 36 are rejected under 35 U.S.C. 102(e) as being anticipated by Court et al. (USPN 6,875,520).

In regard to independent claim 1, Court et al. teach the claimed multilayer structure (see entire Court. et al. reference, including col. 6, lines 46-50 and col. 5, lines 12-16). Court. et al. teach that the article comprises at least one layer of the composition comprising the polyolefin-polyamide graft copolymer (col. 3, lines 4-10), and an article comprising two or more layers of the composition comprising the polyolefin-polyamide graft copolymer since the polyolefin-polyamide graft copolymer is a polyamide (in regard to layer (1)), so the embodiments of Court. et al. comprising two or more layers of the composition comprising the polyolefin-polyamide graft copolymer anticipates the claim.

In regard to claim 5, Court et al. teach that the recited copolymers are suitable copolymers for the polyolefin backbone (col. 22, lines 26-29).

In regard to claim 28, Court et al. teach that a ratio of 80/20 is a suitable polyolefin/ polyamide ratio (col. 9, line 8).

In regard to independent claim 34, Court et al. teach the claimed multilayer structure (see entire Court. et al. reference, including col. 7, lines 30-32 and col. 5, lines 12-16). Court. et al. teach that the article comprises at least one layer of the composition comprising the polyolefin-polyamide graft copolymer (col. 3, lines 4-10), and an article comprising two or more layers of the composition comprising the polyolefin-polyamide graft copolymer since the polyolefin-polyamide graft copolymer is a polyamide (in regard to layer (1)), so the embodiments of Court. et al. comprising two or more layers of the composition comprising the polyolefin-polyamide graft copolymer anticipates the claim.

In regard to independent claim 36, Court et al. teach the claimed multilayer structure (see entire Court. et al. reference, including col. 8, lines 1-4 and col. 5, lines 12-16). Court. et al. teach that the article comprises at least one layer of the composition comprising the polyolefin-polyamide graft copolymer (col. 3, lines 4-10), and an article comprising two or more layers of the composition comprising the polyolefin-polyamide graft copolymer since the polyolefin-polyamide graft copolymer is a polyamide (in regard to layer (1)), so the embodiments of Court. et al. comprising two or more layers of the composition comprising the polyolefin-polyamide graft copolymer anticipates the claim.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. Claims 1-4, 6-8, 10-18, 21, 22 and 24-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmitz et al. (USPN 6,794,048).

In regard to independent claim 1, Schmitz et al. teach a multilayer structure comprising a first layer (layer I of Schmitz et al.) comprising a polyamide (col. 1, lines 51-54) and a second layer (layer II of Schmitz et al.) comprising a graft copolymer having polyamide blocks, a polyolefin backbone, and a polyamide graft where the structure and composition of the graft copolymer corresponds to that of the claimed graft copolymer in its final form (col. 1, lines 51-67 and col. 3, lines 7-37). The graft copolymer is obtained by reaction between a polyamide having an amine end group and the residue of the unsaturated monomer having a functional group capable of reacting with the amine end group of the polyamide (col. 3, lines 15-30), and the unsaturated monomer is attached to the polyolefin backbone by grafting or copolymerization via its double bond (col. 3, lines 24-30).

Schmitz et al. fail to teach that the average number of moles of the unsaturated monomer attached to the polyolefin backbone is 1.3 to 7 moles per mole of chain.

However, Schmitz et al. disclose that from 30 to 70 parts by volume of polyamide may be reacted with from 0.1 to 70 parts by volume of the polyolefin containing functional groups (col.

3, lines 38-48). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have varied the amount of unsaturated monomer having a functional group relative to the amount of chain in order to vary the amount of polyamide grafts attached to the polyolefin backbone (since the polyamide grafts are attached to the polyolefin backbone via the unsaturated monomer) in order to achieve the optimal ratio of polyamide to polyolefin depending on the particular desired end result, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art in the absence of unexpected results. MPEP 2144.05 II.B.

In regard to claim 2, Schmitz et al. teach that the multilayer structure comprises a third layer (layer III of Schmitz et al.) that comprises a polyolefin (col. 1, line 51-col. 2, line 2 and col. 2, lines 52-65).

In regard to claim 4, Schmitz et al. teach that the unsaturated monomer is an unsaturated carboxylic acid anhydride (col. 3, lines 15-30, particularly, line 22).

In regard to claim 6, Schmitz et al. teach that the structure is in the form of a tank (a container for storing liquids or gases would be considered a tank), container, film or tube (pipes, lines) (col. 7, lines 36-50).

In regard to claim 7, Schmitz et al. teach an additional layer (additional interior layer of Schmitz et al.) as the innermost layer (i.e. the layer that is in direct contact with the interior of the container) (col. 7, lines 51-55).

In regard to claim 8, Schmitz et al. teach the structure is a tube (pipes, lines) (col. 7, lines 36-47) and that the tube comprises an additional layer (additional interior layer of Schmitz et al.) as the innermost layer (i.e. the layer that is in direct contact with the interior of the container)

(col. 7, lines 51-55). The recitation "for use in a cooling circuit for am [sic] internal combustion engine" is an intended use phrase that has not been given patentable weight, since it has been held that a recitation with respect to the manner in which a claimed article is intended to be employed does not differentiate the claimed article from a prior art article satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQd 1647 (1987).

In regard to claim 9, Schmitz et al. teach a material (the material of layer II of Schmitz et al., col. 1, lines 51-67 and col. 3, lines 7-37) in the shape of a tank (a container for storing liquids or gases would be considered a tank), container, film or tube (pipes, lines) (col. 7, lines 36-50) where the material comprises a graft copolymer having polyamide blocks (col. 3, lines 7-37), where the graft copolymer consists of a polyolefin backbone and at least one polyamide graft, where the polyolefin backbone is functionalized by an unsaturated monomer and at least one polyamide graft (col. 1, lines 51-67 and col. 3, lines 7-37), where the graft copolymer is obtained by reaction between a polyamide having an amine end group and the residue of the unsaturated monomer having a functional group capable of reacting with the amine end group of the polyamide (col. 3, lines 15-30), and where the unsaturated monomer is attached to the polyolefin backbone by grafting or copolymerization via its double bond (col. 3, lines 24-30).

In regard to claim 10, Schmitz et al. teach a multilayer structure comprising a first layer (sheathing layer of Schmitz et al.) comprising a polyamide (polyether ester amides or polyether amides, col. 8, lines 17-18) (col. 8, lines 4-18), a tie layer (additional bonding agent, col. 8, lines 8-12) and a layer (layer II of Schmitz et al.) comprising a graft copolymer, where the graft copolymer comprises a polyolefin backbone functionalized by an unsaturated monomer and at least one polyamide graft (col. 1, lines 51-67 and col. 3, lines 7-37), where the graft copolymer is

obtained by reaction between a polyamide having an amine end group and the residue of the unsaturated monomer having a functional group capable of reacting with the amine end group of the polyamide (col. 3, lines 15-30), and where the unsaturated monomer is attached to the polyolefin backbone by grafting or copolymerization via its double bond (col. 3, lines 24-30).

In regard to claim 11, Schmitz et al. teach a multilayer structure comprising a polyamide or a polyolefin layer (sheathing layer of Schmitz et al., col. 8, lines 4-18) superposed on a layer (layer II of Schmitz et al.) comprising a graft copolymer, where the graft copolymer comprises a polyolefin backbone functionalized by an unsaturated monomer and at least one polyamide graft (col. 1, lines 51-67, col. 3, lines 7-37 and col. 8, lines 4-18), where the graft copolymer is obtained by reaction between a polyamide having an amine end group and the residue of the unsaturated monomer having a functional group capable of reacting with the amine end group of the polyamide (col. 3, lines 15-30), and where the unsaturated monomer is attached to the polyolefin backbone by grafting or copolymerization via its double bond (col. 3, lines 24-30). Schmitz et al. teach that the multilayer structure comprises a tie layer (additional bonding agent, col. 8, lines 8-12) placed between the polyamide or a polyolefin layer (sheathing layer of Schmitz et al.) and the layer (layer II of Schmitz et al.) comprising the graft copolymer (col. 1, lines 51-67, col. 3, lines 7-37 and col. 8, lines 4-18).

In regard to claim 12, Schmitz et al. teach a multilayer structure comprising a first layer (sheathing layer of Schmitz et al.) comprising a polyamide (polyether ester amides or polyether amides, col. 8, lines 17-18) (col. 8, lines 4-18), a tie layer (additional bonding agent, col. 8, lines 8-12) and a layer (layer II of Schmitz et al.) comprising a graft copolymer, where the graft copolymer comprises a polyolefin backbone functionalized by an unsaturated monomer and at

least one polyamide graft (col. 1, lines 51-67 and col. 3, lines 7-37), where the graft copolymer is obtained by reaction between a polyamide having an amine end group and the residue of the unsaturated monomer having a functional group capable of reacting with the amine end group of the polyamide (col. 3, lines 15-30), and where the unsaturated monomer is attached to the polyolefin backbone by grafting or copolymerization via its double bond (col. 3, lines 24-30). Schmitz et al. teach a multilayer structure further comprises a polyolefin layer (layer III of Schmitz et al.) superposed on the layer comprising the graft copolymer and a tie layer (layer I of Schmitz et al.) placed between the layer comprising the graft copolymer and the polyolefin layer (layer III of Schmitz et al.) (col. 1, line 51-col. 2, line 2).

In regard to claim 13, Schmitz et al. teach that the polyolefin backbone is a polyolefin homopolymer or copolymer (col. 3, lines 10-52).

In regard to claim 14, Schmitz et al. teach that an unsaturated epoxide or an unsaturated carboxylic acid anhydride are suitable monomers as the unsaturated monomer (col. 3, lines 15-30, particularly, lines 22-23).

In regard to claim 15, Schmitz et al. teach that the first layer (layer I of Schmitz et al.) is formed from a polyamide/polyolefin blend having a polyamide matrix (col. 1, line 54 and col. 2, lines 37-52, particularly, col. 2, lines 41-44).

In regard to claim 16, Schmitz et al. explicitly teach that all of the claimed polyamides except PA-6/6,6 are suitable polyamides for the first layer (layer I of Schmitz et al.).

In regard to claims 17 and 18, Schmitz et al. teach the structure as discussed above in regard to claims 10 and 11. Polyether ester amides and polyether amides are taught as suitable materials for the additional bonding agent (col. 8, lines 4-18), and polyether ester amides and

polyether amides are copolyamides because they are copolymers that comprise amide repeating units.

In regard to claim 21, Schmitz et al. teach that the first layer (layer I of Schmitz et al.) comprises a blend of a polyamide and at least one copolymer having polyamide blocks and polyether blocks (col. 2, lines 33-38 and lines 3-7).

In regard to claim 22, Schmitz et al. teach the multilayer structure as discussed above in regard to claim 15. Schmitz et al. teach that the percentage of polyamide in the blend is less than 100% (since it is a blend) and greater than or equal to 60% by weight (since Schmitz et al. teach that the percentage of "other thermoplastic[]" is "[u]p to 40% by weight", col. 2, lines 37-41), a range that overlaps with the claimed range of 40 to 75% by weight.

In regard to claim 24, Schmitz et al. teach that the structure is in the form of a tank (a container for storing liquids or gases would be considered a tank), container, film or tube (pipes, lines) (col. 7, lines 36-50).

In regard to claim 25, Schmitz et al. teach an additional layer (additional interior layer of Schmitz et al.) as the innermost layer (i.e. the layer that is in direct contact with the interior of the container) (col. 7, lines 51-55).

In regard to claim 26, Schmitz et al. teach the structure is a tube (pipes, lines) (col. 7, lines 36-47) and that the tube comprises an additional layer (additional interior layer of Schmitz et al.) as the innermost layer (i.e. the layer that is in direct contact with the interior of the container) (col. 7, lines 51-55). The recitation "for use in a cooling circuit for am [sic] internal combustion engine" is an intended use phrase that has not been given patentable weight, since it has been held that a recitation with respect to the manner in which a claimed article is intended to

be employed does not differentiate the claimed article from a prior art article satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQd 1647 (1987).

In regard to claim 27, Schmitz et al. teach the structure as discussed above in regard to claims 1, 10 and 11. Polyether ester amides and polyether amides are taught as suitable materials for the additional bonding agent (col. 8, lines 4-18), and polyether ester amides and polyether amides are copolyamides because they are copolymers that comprise amide repeating units.

In regard to claim 28, Schmitz et al. fail to teach the claimed ratio range.

However, Schmitz et al. disclose that from 30 to 70 parts by volume of polyamide may be reacted with from 0.1 to 70 parts by volume of the polyolefin containing functional groups (col. 3, lines 38-48). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have varied the size (molar mass) of the amine end group of the polyamide in order to vary the total amount of polyamide in the graft copolymer in order to achieve the optimal ratio of polyamide to polyolefin depending on the particular desired end result, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art in the absence of unexpected results. MPEP 2144.05 II.B.

In regard to claim 29, the layer (2) consists of the graft copolymer in the instance taught by Schmitz et al. where all of the polyamide is present in the form of the graft copolymer (col. 1, lines 61-67).

In regard to claim 30, Schmitz et al. fail to teach that the molecular weight (molar mass) of the amine end group of the polyamide is between 1000 and 5000 g/mol.

However, Schmitz et al. disclose that from 30 to 70 parts by volume of polyamide may be reacted with from 0.1 to 70 parts by volume of the polyolefin containing functional groups (col.

3, lines 38-48). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have varied the size (molar mass) of the amine end group of the polyamide in order to vary the total amount of polyamide in the graft copolymer in order to achieve the optimal ratio of polyamide to polyolefin depending on the particular desired end result, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art in the absence of unexpected results. MPEP 2144.05 II.B.

In regard to claims 31 and 32, the polyolefin-polyamide graft copolymer has the claimed structure (nanostructured organization with polyamide lamellae having a thickness of between 10 and 50 nanometers) as evidenced by Court. et al. (USPN 6,875,520) because Court. et al. discloses a polyolefin-polyamide graft copolymer that is produced in the same way that the polyolefin-polyamide graft copolymer of the instant application is produced, and that has the same structure as the polyolefin-polyamide graft copolymer of the instant application (see entire Court. et al. reference, including col. 8, lines 1-4 and col. 5, lines 5-16).

In regard to claim 33, the polyolefin-polyamide graft copolymer has the claimed structure (nanostructured organization with polyamide lamellae having a thickness of between 10 and 50 nanometers) as evidenced by Court. et al. (USPN 6,875,520) because Court. et al. discloses a polyolefin-polyamide graft copolymer that is produced in the same way that the polyolefin-polyamide graft copolymer of the instant application is produced, and that has the same structure as the polyolefin-polyamide graft copolymer of the instant application (see entire Court. et al. reference, including col. 8, lines 1-4 and col. 5, lines 5-16).

Schmitz et al. fail to teach that the molecular weight (molar mass) of the amine end group of the polyamide is between 1000 and 5000 g/mol.

However, Schmitz et al. disclose that from 30 to 70 parts by volume of polyamide may be reacted with from 0.1 to 70 parts by volume of the polyolefin containing functional groups (col. 3, lines 38-48). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have varied the size (molar mass) of the amine end group of the polyamide in order to vary the total amount of polyamide in the graft copolymer in order to achieve the optimal ratio of polyamide to polyolefin depending on the particular desired end result, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art in the absence of unexpected results. MPEP 2144.05 II.B.

In regard to independent claim 34, Schmitz et al. teach a multilayer structure comprising a first layer (layer I of Schmitz et al.) comprising a polyamide (col. 1, lines 51-54) and a second layer (layer II of Schmitz et al.) comprising a graft copolymer having polyamide blocks, a polyolefin backbone, and a polyamide graft where the structure and composition of the graft copolymer corresponds to that of the claimed graft copolymer in its final form (col. 1, lines 51-67 and col. 3, lines 7-37). The graft copolymer is obtained by reaction between a polyamide having an amine end group and the residue of the unsaturated monomer having a functional group capable of reacting with the amine end group of the polyamide (col. 3, lines 15-30), and the unsaturated monomer is attached to the polyolefin backbone by grafting or copolymerization via its double bond (col. 3, lines 24-30).

Schmitz et al. fail to teach that the molecular weight (molar mass) of the amine end group of the polyamide is between 1000 and 5000 g/mol.

However, Schmitz et al. disclose that from 30 to 70 parts by volume of polyamide may be reacted with from 0.1 to 70 parts by volume of the polyolefin containing functional groups (col. 3, lines 38-48). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have varied the size (molar mass) of the amine end group of the polyamide in order to vary the total amount of polyamide in the graft copolymer in order to achieve the optimal ratio of polyamide to polyolefin depending on the particular desired end result, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art in the absence of unexpected results. MPEP 2144.05 II.B.

In regard to claim 35, the layer (2) consists of the graft copolymer in the instance taught by Schmitz et al. where all of the polyamide is present in the form of the graft copolymer (col. 1, lines 61-67).

Response to Arguments

14. Applicant's arguments regarding the art rejections have been fully considered but are not persuasive. Applicant argues that the composition taught at col. 3, lines 7-37 of Schmitz et al. is not a graft copolymer (that it is a "mixture"); but the composition taught at col. 3, lines 7-37 of Schmitz et al. is a graft copolymer. See col. 3, lines 7-37. Also see col. 3, lines 38-52: the polyamide and polyolefin are "mix[ed]" so that they react to form the graft copolymer. Col. 3, lines 38-52. If all of the polyamide and polyolefin is in the form of the graft copolymer (col. 1, lines 61-67), there is no mixture of polyamide and polyolefin in the final product. If less than all of the polyamide and polyolefin is in the form of the graft copolymer (col. 1, lines 61-67) (which would occur in the instance where not all of one of the polyamide and polyolefin reacts with the

other of the polyamide and polyolefin), there is no mixture of polyamide and polyolefin in the final product. The layer comprising the graft copolymer does not comprise a mixture of the polyamide and polyolefin in the instance where all of the polyamide and polyolefin is in the form of the graft copolymer (col. 1, lines 61-67).

Despite the fact that, as Applicant states, "Schmitz et al. specifically discloses at column 1, lines 40-43 that the bonding layer does not consist of a functionalized polyolefin", Schmitz et al. teaches functionalized polyolefin because Schmitz et al. repeatedly discloses polyolefins containing functional groups. See, for example, col. 3, lines 7-52.

The new rejections made of record above address the remainder of Applicant's arguments (the art of record teach the limitations that Applicant argues is not taught by Schmitz et al. for the reasons provided in the rejections of record).

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter B. Aughenbaugh whose telephone number is (571) 272-1488. While the examiner sets his work schedule under the Increased Flexitime Policy, he can normally be reached on Monday-Friday from 8:45am to 5:15pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye, can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Walter B Aughenbaugh /
Examiner, Art Unit 1794

6/07/09